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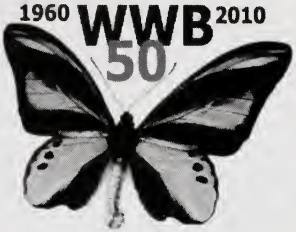

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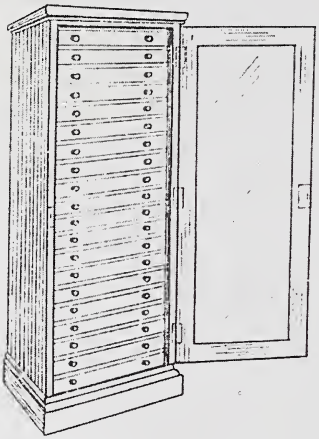

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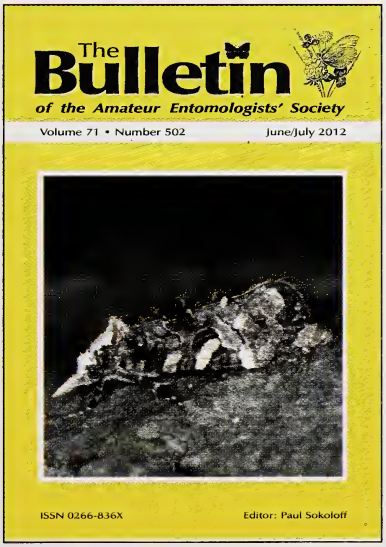

This month's cover picture shows the tortrix moth *Phtheochroa rugosana*. It does not have an English name in common use but has been referred to as the Rough-winged Conch.

This tiny moth is less than 1cm in length, and is very uneven in appearance, with raised tufts of scales contributing to its resemblance to a small piece of bird dropping. This is not so obvious in a close-up picture, but despite its odd appearance the moth is easily overlooked when in the resting position.

The moth can be found from late April through to late July. The larva feeds on the flowers and unripe seeds of White Bryony, later feeding in a leaf spun to the stem. The fully fed larva hibernates in a cocoon in the soil.

Photographed in Kent by Paul Sokoloff

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Editorial

With this issue we say farewell to Dr Phil Wilkins who has decided to step down from his editorial role. Phil first joined the editorial team in December 2002 as guest editor for issue no 445. The following year he became one of the two editors of the *Bulletin*, later continuing this role as lead editor. We will certainly miss his enthusiasm, expertise and willingness to help the inexperienced author on his or her way to a published article. Phil always said that he found editing the *Bulletin* a rewarding experience, but there are downsides. AES members occasionally dispatch harsh criticisms in the editors' direction when they disapprove of an article or perhaps the *Bulletin* is, for whatever reason, a little late in winging its ways to the entomological doorstep. One even said to me that he expected more from "overpaid editors". We wish ....! *Bulletin* editors, like all the other enthusiasts who run the AES are volunteers. The editors, in turn, rely on the willingness of members to write notes and articles. We normally hope to have two editors who work on alternate issues of the *Bulletin* to spread the workload, and next month we hope to announce a successor editor.

Paul Sokoloff

Correction

The caption to Figure 3 in the article *A primary solitary egg parasitoid* (*Bulletin*, 2012. 71 p 27) was duplicated in error. The correct caption should read:

Figure 3. Histogram showing the number of male and female scelionid parasitioids emerging daily between 2nd and 26th May 2009, based on 188 insects in which date of emergence and sex is known.

Insect surprises in Hungary

by Clive Betts (4976)

In November 2011 I was fortunate enough to travel to Budapest in Hungary, courtesy of a European funded environment and conservation project. I was one of a small team interviewing Hungarian conservation workers to become part of our project. For our interviews we had been granted the use of the "specimen store room" in the Department of Systematic Zoology and Ecology, Eötvös Loránd University in Budapest. The idea of spending a day in a rather smelly room full of stuffed animals and drawers full of insects, shells and animal skins might not appeal to everyone but I was particularly excited by the prospect, to the amusement of my colleagues. My excitement stemmed from the promise of discovery: although it was a freezing November outside, I could sample the insect fauna of Hungary which was completely unknown to me. How similar would they be to our own insect fauna? Would there be any surprises?

During the interviews we were conducting we had the idea of asking candidates if they had seen any of the specimens in a selection of drawers, to get an idea of their field and observational experience. My colleague chose a drawer of butterflies and moths at random in which included some beautiful specimens of the Scarce Swallowtail (*Iphiclides podalirius)*, what to me looked like the Apollo (*Parnassius apollo*) or one of its close relatives along with a range of interesting nymphalids, clearwings (Sessiidae), and a number of large and attractive hawkmoths (Sphingidae). I was astonished when nearly all of the 14 interviewees recognized most of the butterflies and moths, sometimes as regular visitors to gardens or nature reserves where they worked. The insect fauna of Hungary was proving more exotic than I had thought.

During our lunch break I investigated a number of the other drawers. Inside I found a huge range of insects from ant-lions and colourful grasshoppers to more familiar darter dragonflies. In one drawer crammed with beetles our host pointed to a chestnut brown scarabaeid about 40mm long with a large horn on its head saying how common they are where he lived. I couldn't read the label but my guess from Chinery (and a quick trawl through the internet) was *Oryctes nasicornis.* In the same drawer were large powder-blue longhorn beetles that looked like *Morimus funereus* (again as pictured in Chinery – this is an endangered species according to internet sources so my ID is very uncertain) and numerous male and female stag beetles (*Lucanus cervus*). I wish I had more time to examine the labels further but my real interest lay in what bumblebees I might find so I had to move on.

The author (on the left) with colleagues in the specimen room, Eötvös Loránd University, Budapest.

Bumblebees have been a fascination for me since I was a young teenager so, after some negotiating with our host I managed to find the drawers marked "Hymenoptera" and a few drawers down I found my prize: an old collection of Hungarian bumblebees. I say old as the labels were all handwritten in a beautiful script and the specimens' colours were slightly faded. These were probably early/mid 20th Century but even so there were some surprises in the list of names in front of me. I saw many specimens of *Bombus pomorum*, and *B. cullumanus* neither recorded for many decades in the UK, alongside other familiar names like *B. lucorum*, *runderarius*, *sylvarum* and *hortorum*.

However, one name stood out: *Bombus mastrucatus*. This bumblebee is a member of a distinctive group of species (or subgenus) called *Alpigenobombus* (see Paul Williams' superb website for more on bumblebee systematics and far more besides). Why was I so interested in these rather scruffy specimens? Many years ago I was lucky enough to study the Natural History Museum's bumblebee collection, helped by great names like Dr Ian Yarrow and George Else. I was intrigued by the similarities and differences in colour patterns between and within species, especially in subgenera where there were other strong characters to

distinguish species. I had focused in on one group for a while, the subgenus *Alpigenobombus*. The females in this subgenus all have deeply defined "teeth" in their mandibles, so are quite distinctive. As their name suggests they are described mainly from specimens taken at some altitude. I looked closely and indeed they did look like *B.mastrucatus* (which we now know should be called *B.wurflenii*) but I was sure I had never seen any members of this subgenus from Hungary.

Here I think it's worth saying a little about the biogeography of Hungary which lies in an area of Eastern Europe called the Carpathian basin. Its habitats include a huge open grassland (the "Great Plain"), one of the largest freshwater lakes in Europe (Lake Balaton), and to the North hills and mountains up to 1000m, but certainly not on an alpine scale. The geography of what we now know as Hungary, however, is complicated by political boundaries that have changed massively since the early 20th century: something to be borne in mind when examining old collections.

Unfortunately I couldn't explore the details of dates and locations any further as our time ran out and before I knew it I was back in the UK with only the memories of that fascinating afternoon to ponder. Since my trip I have undertaken a bit more research and, as in the UK and most of Europe, Hungarian bumblebees are in decline (see Sárospataki *et al*) and some of the most threatened species were represented in the Eötvös Loránd University collection. However, I can find only a reference to *B.wurflenii* (as *B.mastrucatus*) being recorded "pre-1990" on Pierre Rasmont and Stéphanie Iserbyt's superb distribution maps (see the URL below). There is no reference to any other species of the *Alpigenobombus* subgenus so it would be interesting to revisit this, and other parts, of the University's collection to see if once these bumblebees had flown around the northern forests of what we now call Hungary and have since vanished (why?), or were recorded from land that was Hungarian and is no longer, or maybe they are still out there but un-recorded?

I look forward to a summertime trip to do my own recording!

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Rasmont & Iserbyt's distribution maps: http://www.zoologie.umh.ac.be/hymenoptera/page.asp?id=169

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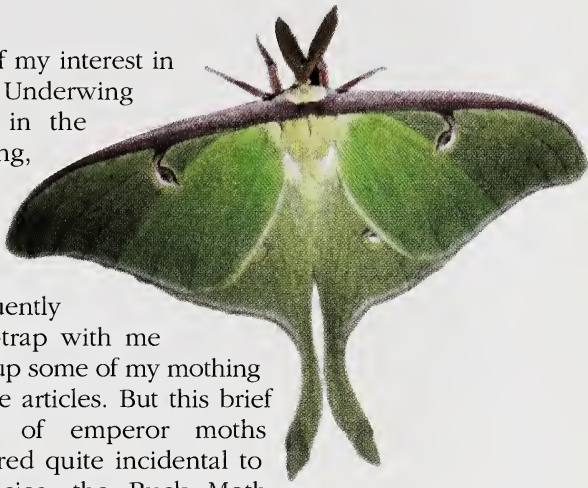
A tale of two Emperors (Saturniidae) – in New Orleans, Louisiana, and Little Rock, Arkansas, USA

by Paul Waring (AES 4220)



Regular readers will be aware of my interest in the North American species of Underwing moths (the *Catocala* species in the family Noctuidae) (see Waring, 2005 and Waring *et al.*, 2005), also in rearing the Emperor moths (Saturniidae) (see Waring, 2007), and that when I travel around in the USA I frequently take a super-lightweight moth-trap with me (see Waring, 1999). I am writing up some of my mothing adventures in the USA for future articles. But this brief note is about two species of emperor moths (Saturniidae) which I encountered quite incidental to other activities. The first species, the Buck Moth *Hemileuca maia* (Drury), was found as a caterpillar and the notes here may prove helpful to others, because they sting! The second species is just an object of wonder which is nice to see and share.

The story starts with me in New Orleans in late April and early May for several years running, from 2006 to 2009 for the Jazz & Blues Festival and the Ponderosa Stomp, two music festivals which between them attract thousands of people to the city from all over the USA and further afield. Now, as I found in 2007, and in subsequent years, this coincides with the final instars of the splendid spiny caterpillars of *H. maia* (Photo 1). The very first caterpillar I found was crawling over concrete in the heart of the old city, near Congo Square, while I was walking along with another music-loving friend, Paige Anderson. That was on the 2nd May 2007. I found another of these caterpillars nearby within an hour. Then, on 6th May we found more of them when we visited Audubon Park in the Garden District of New Orleans. There were several walking on the ground under trees growing by the river (Photo 2). Some local children had found one on my arrival and carefully had it crawling up and down along a stick (Photos 3 and 4). They said I should not touch it because it would give me a rash.

According to Brou (2002), in Louisiana *H. maia* was first reported by von Reizenstein (1863) from New Orleans and it remains a topic of discussion each April and May when the Live Oak *Quercus virginiana*

Figure 1. Final instar caterpillar of the Buck Moth *Hemileuca maia* (Drury) found in New Orleans, Louisiana, USA, 2nd May 2007. (Paul Waring).

Figure 2. Riverine habitat for Buck Moth at Audubon Park, New Orleans, Louisiana, USA, 6th May 2007. (Paul Waring

Figure 3. Local children with a Buck moth caterpillar on a stick – they knew it could cause a sking-rash if handled. (Paul Waring)

Figure 4. Caterpillar of Buck Moth on stick, showing lateral markings and reddish prolegs. (Paul Waring)

Mill. found throughout the city, and used extensively as ornamental and shade trees, are discovered to be supporting large numbers of these caterpillars. The caterpillars are both numerous and do indeed have stinging hairs, which are sharp, hollow and attached to a sac of poison. If you merely brush against them with a hand or arm, the skin usually comes up in a raised blister or temporary rash which itches or stings, like a nettle-rash. Usually this subsides within hours but the puncture points can sometimes still be seen up to ten days later. A minority of individuals have also reported nausea after touching these caterpillars! Otherwise, the caterpillars are harmless. They do not have hairs which come loose and drift in the wind.

The adults fly from November to January in south-east Louisiana, reaching a well-defined peak in early December. They fly by day, are often found mating and are also captured in numbers at uv light traps. The world wide web contains many photographs of, and references to, the caterpillars, including requests for identification of them and reports of the sting. The genus *Hemileuca* contains several widespread species in North America, with larvae which sting to varying degrees.

My second Emperor of the trip was encountered on the morning of 11th May 2007 by the lighted window of the door of a neighbour's house while I was visiting another friend, Twana Porter, who lives in a wooded part of Little Rock, Arkansas. In fact Twana spotted it first, earlier in the morning, and called me over to see it when I arrived (Photo 5). By that stage it had been sitting in daylight for several hours, undisturbed. I immediately recognised this insect as a male of the Luna Moth, also known as the American Moon Moth, *Actias luna* (L.) (Photo 6). According to my friend Charlie Covell, who wrote the field guide to the moths of eastern North America (1984, second edition 2005), the Luna Moth occurs throughout the eastern USA, from Mexico, where it has three generations of adults in the year, from March to September, northwards to the Canadian border, where it has one generation, flying from May to July. I personally have found the moth fairly frequently, with several per night per 160W blended MV light operated all night over a sheet, in several localities I have trapped in Kentucky, and I have seen others elsewhere, as in Arkansas.

Interestingly, during the late April-May period when these observations were made, I had been running my 6W actinic trap, both at Paige's house in Jackson, Mississippi (Photo 7), and at Twana's in Little Rock, Arkansas (Photo 8), with very few moths coming to the trap, and no Saturniidae, despite the fact that trees of various species which are suitable as larval foodplants are well represented in the vicinity of both houses.

Figure 5. Twana Porter with Luna Moth *Actias luna* (L.) to door light on 11th May 2007 at Little Rock, Arkansas, USA. (Paul Waring)

Figure 6. Luna Moth *Actias luna* (L.), also known as the American Moon Moth. (Paul Waring)

Figure 7. Waring Tropical light-trap in operation on fire escape at Paige Anderson's house in Jackson, Mississippi, USA. (Paul Waring)

Figure 8. Wooded habitat of Luna Moth at Twana Porter's house in Little Rock, Arkansas, USA, with Paige Anderson coming down the steps, and light trap on right. (Paul Waring)

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Melolontha melolontha

I still remember the first time I saw
him.
May had broken, blackbirds
Were at evensong
And the house lights were on.

It was a shock at first,
The loud tap at the window.
Alone, and eight
I turned off the lamp and listened.

Nothing. Beyond the window
There was only darkness
Like a cow's stomach, ruminating
on the day.
I put the lights back on.

Then it began again:
A rustle in the ivy,
Irregular tap, tap, tapping
At the window.

Inevitably, he entered
Through the open casement;
Sat on the windowsill,
Pulled himself up the curtains.

For the first time, I could really see:
His silvery hair,
Brown jacket, black top;
Antennae like the feet of a mole.

Alone now, and eighty,
As the calendar eases the spring
from the soil
I still remember that first time I saw
him,
And I wait by the lighted window.

Katie Pritchard

Butterflies in Wellington, New Zealand

by R. J. D. Tilley (7513)

1 The Paddocks, Penarth, South Glamorgan CF64 5BW.

Wellington, the capital of New Zealand, is situated in a fine harbour at the southern end of the North Island. It is at the latitude of approximately 41.5°S, comparable to that of Madrid or Naples in northern hemisphere Western Europe. The butterfly fauna of New Zealand is scant, with only 11 endemic species and a total of 23 species when introductions and immigrants are included (Gibbs, 1980; Rickards 2008). Nevertheless, it might be anticipated that the low species count would be balanced by large numbers of individuals.

I was able to spend the month of January 2012 in Wellington and this note records my impressions of the butterflies found. Although the observations were more or less made in the city and suburbs it should be pointed out that Wellington is a very open city with plenty of open spaces that make it a wild-life friendly venue.

The only butterfly that could be regarded as common was *Pieris rapae*, the Small White, known as the Cabbage White in New Zealand. This introduced species was first recorded in North Island New Zealand in 1930. It spread inexorably to all parts of both the North and South Island within four years and rapidly reached pest status. In Wellington it was seen in gardens, along railway lines and in parks throughout my stay. It was always at a fairly low density, but invariably spotted on any but the poorest days. This butterfly is identical, to all intents and purposes, to the insect in Britain. The wing markings are the same, including spring and summer forms and male and female differences.

Three species of *Nymphalidae* were observed. All of these butterflies are large and easily distinguished one from the other. The largest, *Danaus plexippus*, the Monarch, a famous migrant originating in North America, was seen in suburban gardens. The first verifiable report of this butterfly in New Zealand dates to 1873 but anecdotal evidence at least suggests that it was present before this date. A number of food plants were introduced into New Zealand at around this time, and breeding populations have been present for well over 100 years, sometimes building rapidly to large flocks in suitable years. The adults overwinter and there is the possibility of seeing one at any time of year in the north. The expansion of the species has been encouraged in recent years and many garden centres sell "Monarch food plants" aimed at suburban gardens.

The other two *nymphalid* butterflies noticed were *Vanessa gonerilla gonerilla*, the New Zealand Admiral, and *Vanessa itea*, the Yellow

Admiral, both observed in Wellington Botanic Gardens. *Vanessa gonerilla* is an endemic species, occurring throughout both islands. At a casual glance it looks like a European Red Admiral, but is easily distinguished when observed close to, as the upper hind wings are marked by a series of eye-spots set in a red band. The underside is cryptically coloured, similar to its European counterpart. *Vanessa itea* is a handsome insect, with orange-red hindwings and a large yellow patch on each forewing (Figure 1). As with the previous species the underside of the hindwing is cryptically coloured, making both this and the Admiral difficult to spot when resting with wings closed.

Figure 1. *Vanessa itea*, Yellow Admiral, in Wellington Botanic Garden.

All of the previous butterflies could be seen in suburban gardens as well as in public parks and other open places within the city. The remaining two butterfly species seen, both endemic coppers, were only found along undeveloped coast around Wellington. The first of these, *Lycaena salustius*, the Common Copper, is reported as being widely distributed, even occurring in suburban gardens, but I only found it on the coast, where it was fairly common. It is a rich copper colour on the upperside, with dark veins that appear to be doubled (Figure 2). The dark areas are more pronounced in the female than the male. The extent of the markings is very variable in both sexes and depends upon the locality

Figure 2. *Lycaena salustius*, Common Copper, male upperside, coastal margin near Wellington.

of the population. This has given rise to a number of named forms and has, in the past, lead to some confusion about the number of differing species of copper that actually exist. The other copper seen, *Lycaena rauparaha*, Rauparaha's Copper, is definitely a coastal species as the food plant is restricted to coastal areas. The males are somewhat darker than those of the Common copper and can be distinguished by noting that the veins on the uppersides are single rather than double. It was found in the same localities around Wellington as the Common Copper.

A few other butterflies were seen, but none close enough to permit identification. All in all, though, the total number of butterflies observed was very small. The reason for this is likely to be due to the fact that introduced plants and predators, including European parasitic wasps, have had a very damaging effect upon the size and distribution of butterfly populations except in the remotest parts of the country (Hansford and Rickards 2009).

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The Harlequin ladybird, *Harmonia axyridis*, a visitor to my garden in Essex

by Ronald N. Baxter (1267)

45 Chudleigh Crescent, Seven Kings, Ilford, Essex, IG3 9AT.

Each year I grow runner beans in my garden and each year they become infested with Black Bean Aphid, (Black-fly) *Aphis fabae*. In addition, during 2010 there was a visitation of the harlequin ladybird, *Harmonia axyridis*. I first noticed its presence when I was removing black-fly infested leaves in late July. The specimen was a typical red specimen, but it did not seem interested in the black-fly. It was sunning itself in a prominent position. I searched the bean leaves to see if I could locate further specimens, but none were forthcoming. However, I did find a specimen of our native seven-spot ladybird, *Coccinella septempunctata* (*C. 7-punctata*).

Although I searched each day, I could find no more harlequin ladybirds, not even the one already noted. It was more than a week later, 3 August, when I noticed, in full view, another *C. 7-punctata* specimen. Diligent searching revealed a further *C. 7-punctata*, but nothing more. I began to wonder if the harlequin ladybird I had discovered was a solitary specimen. Then suddenly I noticed a pale golden-brown specimen. Close inspection revealed the specimen to be a colour form of *H. axyridis*.

It was at this stage that I decided to make a photographic record of them. The first photograph would be the golden-brown form. The next one was the typical red specimen and finally a *C. 7-punctata*. Each day I searched the beans for more specimens but it was several days before I found my next ladybird, a further *C. 7-punctata*. I continued my searching but gave-up after an hour.

It was in the first week of August before I found another ladybird – a *C. 7-punctata,* sunning itself on a leaf in the early morning sun. More searching revealed a further specimen and yet another – there were several of them – all sunning themselves. This sudden influx was a surprise which puzzled me. I could only surmise that they had been there all along, hiding among the foliage. Perhaps, prior to their sudden appearance, they were pupae and the warm weather had speeded up their development.

In the evening, I inspected the beans once more. With the sun providing a warm glow on the leaves, I cast my eyes slowly over them hoping to find further colour forms to photograph. There were none. However, there were several *C. 7-punctata*. I counted seven of them. I searched the leaves, but could find no pupae or larvae; and while several leaves were severely infested with black fly, the ladybirds showed no

interest in them whatsoever. I have since discovered that the best times to search for the ladybirds are in the early morning when they bask in the warm sun, and again, when they are basking in the evening sun. With the sun setting, they disappeared among the leaves.

It was the 13 August when I found my next *H. axyridis*. It was a melanic form, glistening in the sun. It was as black as black can be and highly 'polished'. On each elytron was an orange blotch with a central black spot. As this specimen was something special, I immediately set-up the camera to take some shots. Having nicely framed the ladybird, I carefully focused the lens, but I could clearly see a reflection of the clouds in the ladybird's 'polished elytra'. Then I could see branches from a tree waving about. To take good shots, I would have to do the photography indoors – in the conservatory, to be exact.

My next find was on 15 August – another melanic form, again with two orange blotches but the central black spots were absent. It was about this time, mid August, when the melanic forms were becoming a common sight, so much so, that I had to inspect each one carefully to note any differences to those I had already photographed. The native *C. 7-punctata* was also increasing in numbers, but this was the only native species seen so far.

On the 16 August I was searching for a 'new form' to photograph when a particular specimen caught my eye, one I have never seen before. It was scarlet in colour. At first I thought it was without any spots, but inspecting it closely, I could see that it had feint spots on each elytron; another one to photograph. On the 24 August I spotted a honey coloured specimen with four feint spots and on the next day a similar example but with six spots.

On the 29 August there were a good number, seven to be precise, of melanic forms sunning themselves and spotting a 'new form' was becoming extremely difficult. After studying the melanic specimens carefully, I spotted one with four orange blotches. This was the last specimen I found and which I wanted to photograph.

Late August arrived with hundreds of Syrphids (Hover flies), feeding from every flower in the garden, and females laying eggs on the undersides of leaves of many kinds of plants. In most cases, there was no food available for their larvae. But things were different with the beans. Here there was leaf, after leaf, their undersides black with black bean aphis, leaf stalks thick with them, but not a single predator in sight. No ladybirds' eggs or larvae; no Hover flies' eggs or larvae, nothing. With this more than ample supply of food I should have thought the beans would be covered with their eggs.

It was the same with the ladybirds. Where were their eggs and larvae? If the harlequin ladybird was a threat to native ladybirds and other predators

of aphids and coccids why were they not swarming over my beans? The adults had been present in my garden for more than a month so why have they not bred? Had they just arrived from another area and landed among my beans? It is stated that the harlequin ladybird is a particularly voracious predator (Ware *et al* 2005), and that they consume up to 65 aphids per day during adulthood. With approximately ten harlequin ladybirds present daily on my run of beans to the end of September, I calculate that they should have consumed approximately 20,000 aphids. And assuming that they bred during this time and the females each laid 4000 eggs, in theory, my beans should be one heaving mass of harlequin ladybirds.

But in reality, they did neither.

It was not until October when I cleared the beans did I find one half-grown larva, three pupae, and two pupal cases. The odd harlequin ladybird appeared sunning itself on warm days throughout October, with the highest number on the afternoon of 30 October, when nine were counted on walls and flying about the garden. However, this was nothing like a swarm. I can only assume that for some reason, aphids on beans don't appeal to ladybirds.

On the 1 November 2010 – a warm sunny day – harlequin ladybirds were flying about in my front garden, settling on the white wall, and basking in the sun. The antics of a magpie attracted my attention. The bird was jumping off the front wall on to a side wall and back again. I could not see clearly what exactly it was doing, but in between jumps it began pecking at the wall. Suddenly, the bird flew and I could clearly see that it had attacked a harlequin ladybird. Whether the magpie ate the ladybird, I don't know, but the magpie then flew away. Perhaps it was being playful or did not like the taste of the ladybird.

With the onset of winter, my observations of the ladybirds were coming to an end. I was busy clearing up dead leaves and tidying-up generally when I noticed a hibernating harlequin ladybird which had found refuge inside the greenhouse lock where it remained until the following spring. Although I searched under the roof of the garden shed I could find no ladybirds. Egg-sacs of the garden spider *Araneus diadamatus* were plentiful and some empty cocoons of *Orgyia antiqua,* but no ladybirds. My observations for 2010 had now come to an end.

Early in March, 2011, I began the spring tidying up the garden, clearing dead herbaceous plant stems and pruning roses. Throughout this task I found two *C. 7-punctata* only amongst the dead herbage. Throughout the year I kept inspecting the plants and runner beans, in particular, but the population of all ladybirds was extremely low, despite ample aphids being present. I began the autumn with the annual clearance of overgrown plants

Coccinella 7- punctata

Harmodius axyridis ovae among aphids

Harmonia axyridis larva

Harmodius axyridis pupa

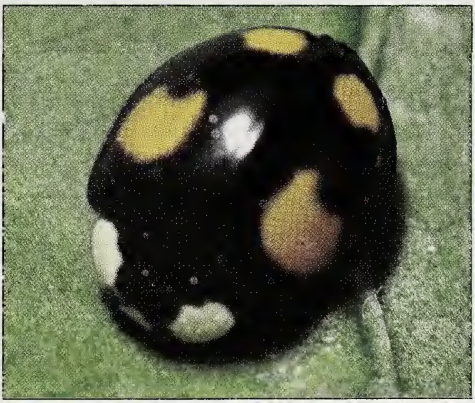
Harmonia axyridis

Harmonia axyridis

Harmonia axyridis

Harmonia axyridis

Harmonia axyridis



Harmodius axyridis

Harmonia axyridis red 2 spot

Harmonia axyridis twin spot

and before consigning them to the compost heap, gave them a good shake to dislodge what insects there might be that were seeking refuge. By the time I had finished I had found 17 *C. 7-punctata* but nothing else.

In October 2011 I received a very interesting letter from David Billings of Norfolk, regarding his observations of ladybirds in his garden, from May 2009 until the autumn of 2011. David lives in a bungalow surrounded by arable fields and pasture. The harlequin ladybirds were first noticed on the Birch and fruit trees in his garden. The Birch trees had aphids present on the undersides of the leaves and along the stalks. Besides the harlequin ladybirds, there were also good numbers of native 7 and 2 spot ladybirds.

During the summer and early autumn of 2009 they proliferated and when at their zenith, outnumbered the native 7 spots by 2:1 and 2 spots by 10:1. In late October, David observed the harlequin ladybirds congregating around the south and west facing French windows in large numbers but as his bungalow is double glazed throughout very few could gain access inside.

During 2010 David found them still in evidence but in greatly reduced numbers, an estimated decline of 80% on 2009. Very few were seen attempting to get indoors last autumn and he has seen none here or elsewhere in this part of South Norfolk in 2011. David observed that December 2010 was very cold with night temperatures dipping to minus 8C so perhaps this was a factor. Conversely, he has observed a large increase in 7-spot ladybirds during 2011 but 2 spot have remained fairly stable. David has a two-acre garden and field which he keeps 'wildlife friendly' by allowing stinging nettles, thistles and other meadow plants to flourish. Green aphids usually put in an appearance in April – May and later dark brown and black ones appear on the Greater Knapweed and Milkweed. Later, in late July and August the same aphids become evident on Greater Knapweed and Elderberry bushes. David does not control the aphids as each year he rears small frogs, toads and newts and requires large quantities of them.

Conclusion

Each of our findings are comparable for the years 2010 and 2011 and it would therefore appear that there was a general decline in harlequin ladybird numbers in those years in Essex and Norfolk.

Whether this will result in a general decline in harlequin ladybirds in subsequent years remains to be seen.

Reference

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A summer swarm of Red Admirals

by John Millard (14515)

Address?

A friend of mine, not an entomologist, regularly walks his dogs in Wildham (or Wildhams) Wood, near Stoughton, West Sussex. He called me on 29 August last year, urging me to visit the woods that afternoon, to see a simply astonishing gathering of butterflies. Soon we were there, witnessing a huge swarm of Red Admirals (*Vanessa atalanta*). There were many, many hundreds of these butterflies, with a tiny number of Peacocks (*Aglais io*), concentrated on a logging path running through this Forestry Commission woodland. The main gathering was along a section just a few hundred yards long.

This hilly, mixed woodland site, not far from Chichester and the Kingley Vale nature reserve, consists mainly of beech, and the wide path was bordered by wild plants including Common Nettle (*Urtica dioica*), the Red Admiral's main larval foodplant. My friend recalled that during the winter, bushes and undergrowth at either side had been cleared. In their place now were extensive stands of flowering Hemp Agrimony (*Eupatorium cannabinum*), and it was obvious that the Red Admirals were here to feed on its nectar. Hemp Agrimony is found in various habitats, including damp woodlands like this one. Its leaves resemble those of Hemp or Cannabis, hence its common name, while its frothy, pinkish flower clusters are the reason it is also known as Raspberries and Cream. The flowers appear from July to September and are very attractive to all kinds of insects.

It was a pleasant late summer afternoon – sunny but not hot, with very little breeze. The flowers of the Hemp Agrimony were covered with Red Admirals in a very docile state. We could photograph them at very close range – it almost seemed they were intoxicated by the heady nectar. The air, too, was thick with the butterflies, which settled easily on our arms and shoulders.

All the insects seemed to be from a very recent brood. Their colours were bright and their wings new-looking and undamaged. With my compact digital camera I could easily get six or seven in a frame.

Clearly a number of factors, presumably including a good breeding season and an abundance of foodplants, had come together at the right time. Whatever the explanation, to see so many butterflies in one place was an experience of a lifetime.

Figure 1. Wildham (or Wildhams) Wood, near Stoughton, West Sussex.

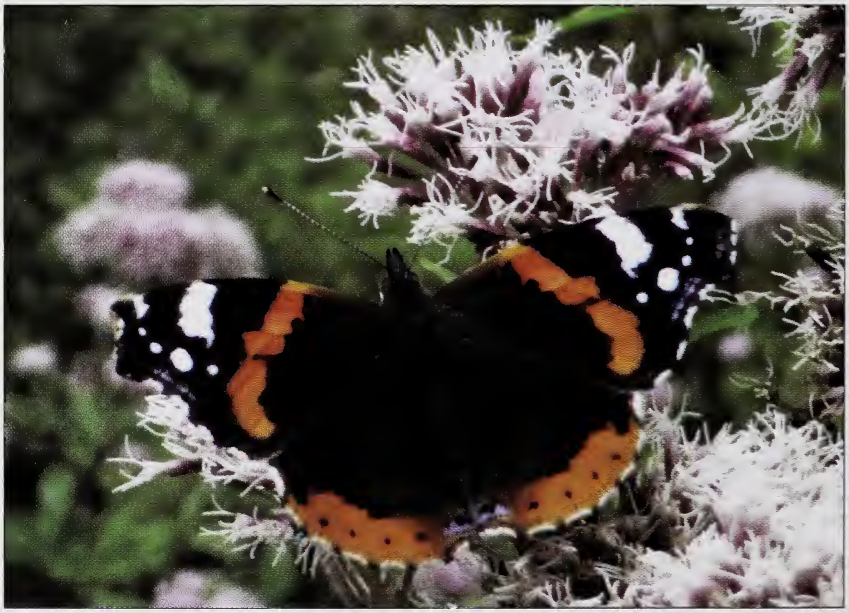

Figure 2. Red Admiral on the flowers of hemp agrimony.

Processionary larvae in a closed circuit (Lep.: Thaumetopoeidae)

by Martin Probert (14071)

55 Higher Compton Road, Hartley, Plymouth PL3 5JA, UK.

I have been sent a film, taken by my sister Julia Wilde in Milongwe, Malawi, of about 100 processionary larvae on the trunk of a tree. The larvae are moving endlessly, three to seven abreast, in an anticlockwise direction around a 30cm high vertical oval (Figure 1). The caterpillars are clearly hairy, with dark heads, and one individual, briefly in better focus, has at least seven transverse dark stripes. They may be some species of *Anaphe* (of which a communal cocoon was illustrated in *AES Bulletin* Number 385), but I have not seen an identification guide to the larvae. The bark of the trunk appears to be smooth, with large white patches among the brown. Fifteen minutes later, when my sister returned to where she had made the film, the caterpillars were nowhere to be seen.

How did these Milongwe caterpillars come to be following an endless circuit? J. Henri Fabre writes that such a closed circuit 'is unknown under ordinary conditions'. He succeeded in artificially inducing caterpillars of the Pine Processionary *Thaumetopoea pityocampa* to follow each other in such a circuit. The caterpillars remained in procession head to tail around the rim of a large vase 'in distress, starved, shelterless, chilled with cold at night' for over seven days. (*The Life of the Caterpillar*, 1912).

Densey Clyne, discussing a species of Australian processionary caterpillar that feeds on *Acacia*, has observed a different final outcome. He writes: "The traditional thing to do when you meet one of these lines is to turn the leader little by little so that it catches up with the last in line, and they all go round in a circle. They're not stupid enough to go on doing it forever, though. Sooner or later ... one of them moves out to take the lead, and off they go again." (*Wildlife in the Suburbs*, 1982).

Army ants (Dorylinae) on the other hand *have* been observed to move in a closed circuit under ordinary circumstances. When manipulated into such a circuit in the laboratory, the ants apparently die of exhaustion (Wikipedia 2011).

To where did the Milongwe caterpillars vanish? One possibility is that, like the Australian caterpillars, the Milongwe caterpillars subsequently broke the circuit, and were far away by the time my sister returned to look for them. There's an alternative possibility, one that would account for both the initial closed circuit, and the subsequent vanish. In answer to my enquiries, I learnt that the caterpillars were filmed within the

Figure 1. Processionary larvae in a closed circuit. Photo: Julia Wilde.

quarantine area of an animal sanctuary, and that the three staff allowed within the area were from Malawi, and quite poor. Now processionary caterpillars (Thaumetopoeidae) are valued in Malawi as food (Allen 2011, Durst *et al* 2010). It is conceivable that one of the workers, encountering a potential meal on the trunk of a tree, and without a pan into which to scoop them, had manipulated the caterpillars into a circuit, and left them going round and round. Returning with a pan, and encountering someone filming the circling ingredients, the cook waited patiently until the photographer departed. Then, the coast clear, the meal was carried off.

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Swallowtail feeding on almond blossom

by David Keen (3309L)

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On the afternoon of 11th March 2012 I was in the middle of a four hour walk in our local countryside when I saw an isolated almond tree in full bloom.

There are a good many such wild trees in this area. Most of them have pale, almost white, flowers and these finish flowering by the end of February – often earlier. There are also a very few which have darker, lilac coloured, flowers and these generally flower in March. It was one of these trees – the only local example – that is the subject of this article. January and February (and March to date) 2012 have been extremely dry with a little rain falling on no more than a handful of days. This has resulted in a local countryside almost devoid of wild flowers except for wild rape which, in March is in full flower.

Thus, the flowering almond was almost the only alternative food source for butterflies, bees and wasps. This tree was "alive" with hundreds of bees and I decided to have a short rest, drink some water and see if anything interesting was going on. It was noted that some of the smaller species of bee (probably Mining-bees) were very aggressive and forcing some much larger species, including the huge and well-known Violet Bees (*Xylocopa* sp.) away from the blossom that they wished to feed on. Two or three Large White Butterflies (*Pieris brassicae*) were busy feeding but these were frequently disturbed by the bees.

Then I saw something fluttering high up in the tree. It was a Swallowtail (*Papilio machaon*) and it was definitely feeding on the almond blossom. As I was watching it, the butterfly flew further down into the tree and landed on a bunch of flowers near the base of a long twig. It then proceeded to feed from one flower after another – each new flower was higher up the twig than the previous one. This was repeated for two or three minutes until the butterfly reached the top flower. It then flew down again to another twig and repeated the same process. This it did several times before it was necessary for me to continue on my walk. As far as I could see it ignored the bees and the bees seemed to take no notice of the Swallowtail.

Although I saw 15 different butterfly species during my walk that day, this was the only Swallowtail that I saw. Previously I have seen this species feeding on umbels, particularly the wild anis that grows to about three metres, and many other wild flowers, including the wild rape, but I have never seen it feeding on almond before.

Enquiries at an AES entomological workshop

by Martin Probert (14071)

55 Higher Compton Road, Hartley, Plymouth PL3 5JA, UK.

On Saturday 3rd March 2012, as part of their Peninsula Arts programme, Plymouth University devoted the day to 'a wide range of bug themed screenings, workshops and activities'. The AES was asked if it would like to run a stall in the atrium; the AES put out a request for someone to run the stall; I volunteered; and visitors to the stall went home with AES subscription forms clasped to their chests.

Several adults came up during the day with insect-related queries. I have the impression that, in my search for further information by asking 'did your insect have such-and-such a feature?', the answer would always have been 'yes' no matter what 'such-and-such' might have been. If I'd have asked 'did it have green ears?', 'yes' would have been the answer.

The following were amongst the questions posed:

"There was a very tiny fly in the garden. Can you tell me what it was?"

"I found a moth this big [*indicating something the size of an Atlas Moth*]. What was it?"

"I saw a may-bug. It had horns on its head. They live underground, don't they?"

"I saw a green caterpillar. What was it?"

"I saw a ladybird. I've got a book with insects, but it wasn't in it. What sort of ladybird wouldn't be in my book?"

"If you want to do Ento... Ento... [*then, pointing to the word 'Entomology' on one of the AES posters*] ... this ... do you have to study medicine, or pharmacology?"

An Hour of Butterflies

by Rob Partridge 8956

11 New Road, Mepal, Ely, Cambridgeshire CB6 2AP.

When I set off along the barrier bank of the Ouse Washes in Cambridgeshire at ten o'clock in the morning, butterflies were the last thing on my mind. True, it was the 11th of April 2012, and, just a week before, the unseasonal weather had produced a crop of early sightings of several spring species. But today there was a brisk north westerly blowing across the open fenland fields, and the sky was full of heavy cloud. Instead of butterflies, I was wondering which birds would be on what remained of the flooded marsh. Last autumn the little marsh, no more than a couple of acres but a haven for wildlife in its long unmanaged state, had been inadvertently mown and grazed. Now, after many phone calls and emails, it had a reprieve but over the next two years it would be important to record as much as possible so that a suitable management regime could be put in place. This was likely to be the first of many visits.

A few minutes after I sat down on the north-west facing bank, partly to keep off the skyline and partly to reduce the effects of that keen wind, a pair of redshank landed and began to feed at the edge of a shallow flood. Through the telescope they were a wonderful, intricately-patterned sight, not at all like the grey-brown waders with red legs that we so often see winging noisily away after we have disturbed them. And a good species in this situation too; if they stay and nest, it will be one more reason to restore this forgotten but special place.

More birds came and went over the next hour, including my second swallow of the year, and my first willow warbler, singing out of sight in the osier bed on the other side of the barrier bank. By eleven o'clock the cloud was beginning to break here and there, and then the first pool of sun appeared out on the fields, travelling swiftly towards me like some celestial spotlight. As it arrived, I stood up, returned the scope to my back-pack and crossed over the top of the bank, intending to make the return journey out of the wind and in the sunshine.

The banks, built originally by the Dutch engineers centuries ago, drop steeply down some 25 or 30 feet towards the Old Bedford river. They face east south east for the whole of their course and are a natural sun-trap; flood protection management means that no trees or bushes are allowed to grow on the slopes but as long as the wind is not in the wrong direction, numbers of insects can be found on them. Within five minutes

of the sun appearing, the first white butterfly was on the wing. As it approached, I stood still, wanting to be able to make a positive identification rather than just record a 'white' in the notebook; if there is a way of definitely separating Green-veined and Small Whites on the wing, I haven't found it yet but it is not for the want of trying! The former was more likely here, as the Washes and their many acres of damp vegetation are home to hundreds of that species every year. The butterfly landed some yards away, and a quiet approach revealed a male on a dandelion flower, with the almost unmarked upperwing typical of the spring brood. As with several other common species, I always find that the majority of early sightings are of males, nature having decided that a few of those are expendable but females full of eggs are too precious to waste! These Green-veined males wander quite widely, and although my garden is at least two hundred yards from a suitable breeding site I have males present every year; females are rarely encountered. I also see them crossing some of our huge arable fields, especially of oil-seed rape.

Moments later I could count three more whites on the wing ahead of me. Each one that I was able to check was another male of the same species. The sun was surprisingly warm out of the wind, and it was noticeable that all the butterflies were keeping well below the top of the bank. Here and there weathering has exposed the concrete mesh that has been used to reinforce the banks. One of these hot-spots was sheltering a worn but very lively Small Tortoiseshell; as I reached round for the camera in the back-pack he was up and away, closely followed by another that I had not spotted. They spiralled rapidly until they were no more than a blur against the now-blue sky but this was rivalry rather than courtship – eventually they parted with one circling down to the very same patch of warm concrete and the other flying purposefully south west at some height.

Further on, a larger, darker shape crossed my path and settled in amongst the herbage. A careful search eventually led to a Peacock, again on one of the numerous dandelion flowers that were opening. Despite being several months old, this one was in fine condition, and looking later at the photograph I took, I could find no tears in the wing or worn patches. This individual was observed for some time and a pattern was soon clear – two or three minutes at the dandelions and then a similar amount of time basking on one of the patches of bare soil or concrete mesh. The sun was not strong enough to keep him warm whilst on the flowers; he needed the radiation from the bare clay or concrete of the bank and had developed a strategy that met his needs for both warmth and nectar.

Ahead of me I could see the car parked on the bridge. The last section of the bank has a low fence and has been less heavily grazed; as a result it has more to attract passing butterflies and bumble bees, including some extensive patches of red dead-nettles. I could see that there were more Green-veined Whites here and moved in with camera at the ready. A careless footstep put up a white but this was much too large for a Green-veined – the first Large White of the year. As well as being bigger than our other whites, the Large is, to me at least, a much more powerful and impressive insect on the wing – it is, after all, a noted long-distance migrant. This one was almost certainly an early emerging resident, and although I haven't checked my own records, I'm sure that I see the first one each year a little earlier than I did in the past. It flew around me in an impressive, leisurely circle with glides sustained enough to let me see the black-tipped forewings – another male of the species. Then he was rapidly gaining height until he had passed over the willow trees near the gate, heading north until he was out of sight.

The walk back from the marsh usually takes me ten minutes at the most – today it had taken me an hour. But someone once said that time spent fishing doesn't count; surely the same must be true of an hour spent watching butterflies on a spring morning.

Green-veined White *Pieris napi* Photograph by Trevor Barnard

BOOK REVIEWS

Keys to Adults of the water beetles of Britain and Ireland (part 1). Handbooks for the Identification of British Insects Vol. 4 part 5 (2nd Ed)

by Garth N. Foster & Laurie E. Friday. 144 pp. including 162 colour plates, published in 2011 for the Royal Entomological Society by the Field Studies Council. Available from the Royal Entomological Society, The Mansion House, Bonehill, Chiswell Green Lane, Chiswell Green, St Albans, AL2 3NS. Softcover. Price £24.00. ISBN 978 0 901546 93 7.

Water beetles have fascinated naturalists for generations; some are large and spectacular in appearance and can surprise the captor with a painful nip from sharp jaws, others are tiny and are a challenge to identify, often requiring microscopic examination of dissected parts.

This handbook forms part 1 of an updated version of the AIDGAP key to the adults of British water beetles by Laurie E. Friday, published in 1988, and deals with the families Gyrinidae, Haliplidae, Paelobiidae, Noteridae and Dytiscidae. In addition to the updated keys there are detailed species accounts, a comprehensive checklist, a table showing regional distribution for every species and a list of references. There is also an appendix giving a key to families of aquatic beetles not covered in the text and is most likely to appeal to non-specialists.

The book features 162 stunning full colour photographic images covering every species currently recorded from the British Isles. This is a truly remarkable achievement and whilst it is acknowledged that most water beetles cannot be identified by reference to pictures alone, the high quality of reproduction makes the plates extremely useful, even to the more experienced entomologist.

Recent taxonomic changes include three species formerly within the genus *Agabus*, now *Ilybius chalconatus, I. montanus* and *I. wasastjernae*, the rare northern speciality *Potamonectes griseostriatus* is now *Boreonectes multilineatus* and the family name for *Hygrobia hermanni* is Paelobiidae, not Hygrobiidae. Perhaps surprisingly for such a well-studied group of beetles there have also been several recent additions to the British and Irish fauna, including *Suphrodytes figuratus* (recognised

as distinct from *S. dorsalis*), *Hydrovatus cuspidatus, Nebrioporus canaliculatus* and *Hygrotus nigrolineatus.*

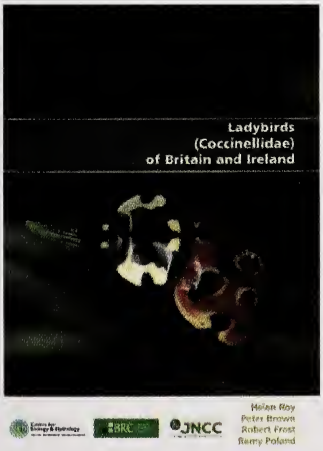
Specialists could rightly be concerned that common names have been included next to the scientific names in the headings to the species accounts. Some are familiar enough but how many entomologists are aware that the "Piles Beetle" is *Liopterus haemorrhoidalis* or even that this species is no longer placed in the genus *Copelatus*? Many find it difficult to keep up with never ending taxonomic changes without having to learn yet another set of names. That said, it is impossible to criticise this excellent handbook and the authors must be congratulated for producing a work that is both useful and a pleasure to use.

Peter Hodge (5335)

Ladybirds (Coccinellidae) of Britain and Ireland

by Helen Roy, Peter Brown, Robert Frost and Remy Poland. ISBN 978-1-906698-20-1. Centre for Ecology and Hydrology (CEH) 2011. £19.50.

This book is the fruit of many years of recording, particularly since 1968 when the Coccinellidae Recording Scheme was set up under the aegis of the Biological Records Centre. That scheme was led by Dr John Muggleton who handed it over in the late 1980s to Professor Michael Majerus (AES President 2005-2009) to whose memory the book is fondly dedicated. This volume supersedes a provisional atlas published in 1995, which has been the only such atlas available until now.



But this book is much more than an ordinary atlas. Partly because only 47 species of these pretty beetles occur in Britain the authors have taken the opportunity to include much additional information on them. As well as a map showing the geographical distribution of each species before 1990, after 1990 and, usefully, before-and-after 1990, there is a phenogram showing when the adult of each species may be spotted (pun intended!) along with informative text describing their ecology and identification features. The combination of this information and the colour photographs of each adult ladybird, and in most cases of the immature forms, make this a very useful identification guide.

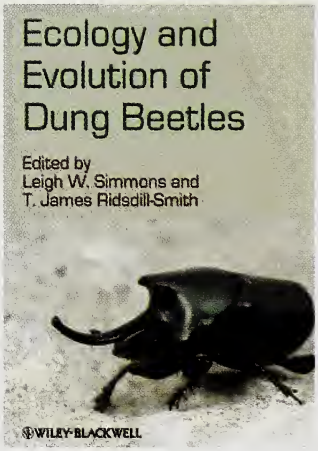
In addition to the species information there are general sections covering the taxonomy, life cycle and behaviour of ladybirds; there is a section dedicated to the invasive harlequin ladybird *Harmonia axyridis*; and there is an interesting section describing ladybirds' natural enemies. The authors' enthusiasm for ladybird recording comes across in particular in the latter part of the book where they invite the reader to participate in the UK Ladybird Survey: relevant field techniques are described (there are even instructions on how to make a sweep net) and there is an explanation of how to go about recording, including a survey protocol and a recording form listing all British species.

All in all this is an authoritative and manageable introduction to British ladybirds and their distribution which will be appreciated by a wide range of entomologists, from novice to expert.

Dafydd Lewis

Ecology and evolution of dung beetles

By L.W. Simmons & T.J. Ridsdill-Smith (Editors). Wiley-Blackwell, 368 pp. Hardcover: ISBN: 978-1-4443-3315-2, £65.00; e-Book, 376 pages. £52.99,



As an avid, some would say obsessive 'dung beetler', it was with great delight that I received another new book on dung beetles. There are several groups of dung inhabiting beetles, and some of these such as the dor beetles (Geotrupidae) and lesser dung beetles (Scarabaeidae: Aphodiinae) are well known to us who work in the north temperate areas. However, the focus of this book is the 'true' dung beetles, all belonging to the subfamily Scarabaeinae (Scarabaeidae), of which there are approximately 6,000 species, ranging in size from just a few millimetres to almost seven centimetres and although the majority are sombre in colour, there are numerous species of metallic red, green and blue. In the UK we have just six extant species, the group being mostly found in the warmer regions, especially the tropical rainforest of Latin America and south-east Asia and the dung rich savannahs of Africa.

In the twenty years since the publication of the last major work by Hanski & Cambefort (1991), dung beetles have become an extremely

popular group for both the non-professional collector and the scientist working on the 'big questions' in ecology, such as biodiversity and their ecosystem services. The popularity of this group for researchers has resulted in two recent books, the one under review here, and the second by Scholtz *et al.* (2009), and although some of the themes are duplicated the two books complement each other well.

The book itself is well produced and is adequately illustrated with tables and figures relevant to the text. However, if you are looking for a picture book of pretty dung beetles, you will be disappointed. There are thirteen chapters, all written by leading researchers in their respective fields: Simmons & Ridsdill-Smith, Reproductive competition and its impact on the evolution and ecology of dung beetles; Philips, The evolutionary history and diversification of dung beetles; Knell, Male contest competition and the evolution of weapons; Simmons, Sexual selection after mating: the evolutionary consequences of sperm competition and cryptic female choice in onthophagines; Tribe & Burger, Olfactory ecology; Tomkins & Hazel, Explaining phenotypic diversity: The conditional strategy and threshold trait expression; Moczek, Evolution and development: *Onthophagus* beetles and the evolutionary development genetics of innovation, allometry, and plasticity; Hunt & House, The evolution of parental care in the onthophagine dung beetles; Byrne & Dacke, The visual ecology of dung beetles; Chown & Klok, The ecological implications of physiological diversity in dung beetles; Roslin & Viljanen, Dung beetle populations: structure and consequences; Ridsdill-Smith & Edwards, Biological control: ecosystem functions provided by dung beetles; Nichols & Gardner, Dung beetles as a candidate study taxon in applied biodiversity conservation research.

At any opportunity I have always told people that dung beetles are an extremely fascinating and valuable (for us) group of insects, and this book proves my point (and beyond). If I wasn't already a dung beetle fan, this book would certainly increase my interest and respect for them. Dung beetles are fast becoming the new *Drosophila* in helping us understand evolutionary and ecological processes, and if you don't believe me: read this book.

References

Hanski I. & Cambefort Y. (1991). *Dung beetle ecology.* Princetown University Press, Princetown.

Scholtz C.H., Davis A.L.V., Kryger U. (2009). *Evolutionary biology and conservation of dung beetles.* Pensoft Publishers, Sofia.

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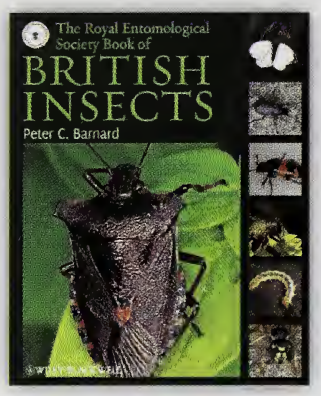

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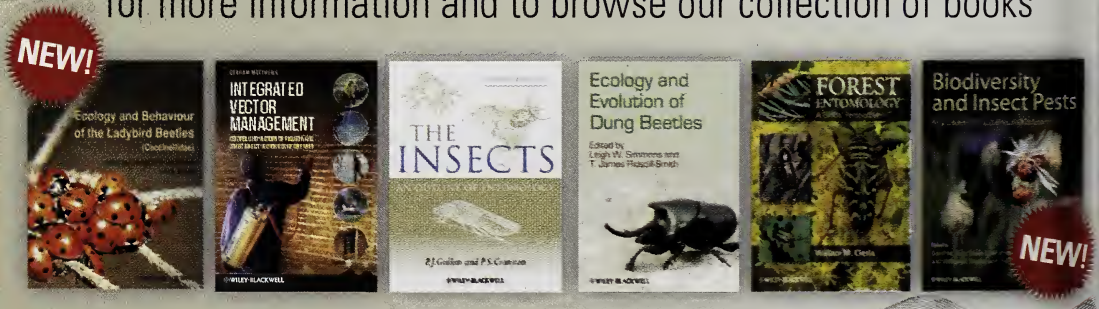

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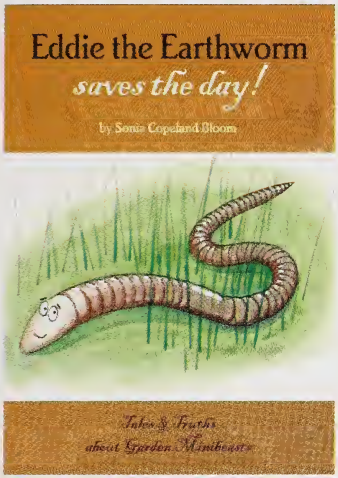

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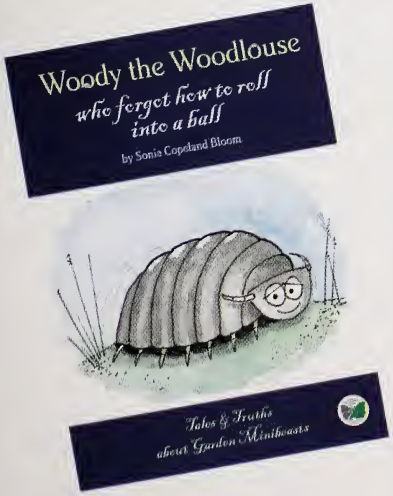

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